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THE JOURNAL OF INDIAN ART AND INDUSTRY

PRICE TWO SHILLINGS.

Vol. VI.

JANUARY, 1896.] [No. 53.

CONTENTS.

INDIAN ARMS AND ARMOUR.

Twenty-one full-page Plates,

WITH

Monograph

BY

MR. B. H. BADEN-POWELL, C.I.E.

RAM SINGH DEL. MAYO SCHOOL OF ART LAHORE.

Published under the patronage of the Government of India.

PHOTOGRAPHED PRINTED, AND PUBLISHED BY W. GRIGGS, ELM HOUSE, HANOVER STREET, PECKHAM, LONDON.

LONDON AGENT—BERNARD QUARITCH, 15, PICCADILLY, W.

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1550–1895.

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JOURNAL

OF

INDIAN ART.

VOL. VI. Nos. 46-53.

LONDON:

W. GRIGGS & SONS, LIMITED, HANOVER STREET, PECKHAM.

January, 1896.

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The Journal of Indian Art and Industry.

INDIAN ARMS AND ARMOUR.

In introducing to the reader's notice the series of plates of Indian swords, daggers, and other weapons, with some samples of defensive armour, to which the present number is devoted, it would serve no useful purpose to attempt anything like a complete account of the forms and history of Indian weapons, or of the technical processes still followed in their manufacture. There is already much available information on the subject. First and foremost is the excellent Handbook to the Indian Museum Collection, prepared by the Hon. Wilbraham Egerton, M.P. (now Lord Egerton of Tatton). There is also an interesting notice in Sir G. Birdwood's *Industrial Arts of India.* Some remarks of a general character will accordingly suffice.

The subject of Indian arms is full of interest; it involves so many peculiarities of native and perhaps very ancient custom, and takes us to so many different races and historical periods. Thus we have weapons of non-Aryan races which may be of great antiquity; and there are the varied and sometimes fantastic forms, which, however, are all based on a few simple, original patterns, which have been in use since the days of the first Moslem invasions, and have been but slightly modified among Rajputs, Sikhs, Mahrattas, and the Southern Muhammadans.

It is chiefly in the non-Aryan weapons that we see a general divergence of style from the later types. And we can mark the distinction between the weapons of the different ethnic groups which are generally recognized. Thus, in the north-east, we find the province of Assam with its little-known hill frontier to the north and east, and again on the south, and with an extensive central range of hills also; here the weapons of the TIBETO-BURMAN stock, to which the population belongs, are more or less distinctive. This same stock furnished, centuries ago, the basis of the Himalayan population, extending not only through Nepál to Kumáon but up to the far western end of the range. The Nepálese weapons are peculiar in form; but the people also are peculiar; the ruling caste is Aryan in origin, but there has been a great mixture of races, with some curious results described in the essays of the late Mr. Brian-Hodgson.

We have also relics of races conveniently distinguished by the term KOLARIAN (though the name in itself is open to objection). The Santhál tribes and the Hô and Mundá of Chutiya-Nagpur are ethnically distinct, although their peculiarities may be somewhat obliterated by mixture of race. The great Southern DRAVIDIAN races also produced special types of weapon, as they did of architectural and other ornament. A very ancient survival of this stock is the Khánd tribe (Orissa States); and to it belong also the chief castes of Madras as well as the Coorgs and the Mysore people and the Malabár Náyars.

It will be observed that in some of the (non-Aryan) weapons there are traces of the savage cruelty of early warriors combined with the love of grotesque form,—which apparently indicates the idea of striking terror into the heart of the enemy. At the same time, many of these races are jungle-dwellers, and are continually under the necessity of cutting their way through bamboo thickets and dense undergrowth, as well as of clearing sites for dwelling or for cultivation; this necessity has gradually evolved different types of peculiarly shaped blades—often broad in the centre, or bill-hook headed, or loaded at the back,—especially adapted to jungle clearing. Not unnaturally, the fighting weapons have taken the same forms. Thus, in Plate 84, the square-ended Assam sword is very like the Burmese "dah" so largely used in cutting bamboo. To the same influences we may ascribe the broadened or loaded blades (see Plate 84, figs. 2, 3, 9, &c.). I even suspect the well-known Nepál "kukri" (Plate 84, figs. 4 and 6) to have had its origin as a lopping and jungle-clearing implement. The Nepálese had, it will be noticed, two striking forms of blade, both specially adapted to the "lopping" action, whether of heads and limbs or of branches! Compare the curiously curved "kukri" form with the swords on Plate 84 (figs. 10 and 13), where we have the upper end broadened and hooked; and notice the development into the still broader sacrificial sword or chopper, where the little round ornament of the blade becomes a completely drawn eye (Plate 85, fig. 32). A curious development of the principle of loading the back of a blade is seen on Plate 89, where the blade seems to be fixed on a heavy sort of bill-hook as a back piece.

Among the weapons of the more civilized warrior races, it will be observed that some are more for show than for anything else. The most deadly and cruel devices are to be found introduced into smaller hand daggers. A few remarks may be made on each main class of weapons of attack. We find them grouped under battle maces, battle axes, spears and halberds, swords and daggers.

The MACES are usually of heavy iron, the handle furnished with a thong to strengthen the grip, and sometimes with a hand-guard, which seems very inconvenient. The head consists of a series of blunt-edged radiating ribs, not for cutting but for a smashing blow. Sometimes the ribs are in a spiral form, and a spear point is added at the top (see good examples on Plate 88).

The BATTLE-AXES are sometimes heavy steel axes on the pattern of a wood-axe (Plate 89), others are sharp two-edged points, like ice-picks. Others are double-headed and with broad moon-like or crescent blades, behind which some beautiful open or incised metal work is introduced (Plate 91). Some of the heads are more or less grotesque. Very often the axe, or halberd, form, changes into that of a broad blade fixed on an iron stem (recalling the scythes on poles used in peasant wars). In some cases this blade can be covered with an ornamental scabbard, and thus in a military procession, the weapon must have had a highly decorative effect.

SPEARS are not very numerously represented in the plates: the varieties appear chiefly among the savage races. In more chivalrous times, the type tended more to the uniform plain cavalry lance. Nothing resembling the heavy mediæval tilting spear of northern climates seems ever to have been used in India. In some cases there are two-pronged spear heads; and on Plate 93 is also a *trisul* or trident, which, I suspect, is rather a temple symbol than a real war weapon. Notice also the decorated spear heads on Plate 100.

SWORDS and DAGGERS.—By far the most artistic class of weapons (if we except, perhaps, the decorated matchlocks) are these. It may be observed that from very ancient times iron was known in most parts of India, from the Himalayas to Cape Comorin (see Watts' *Dictionary of Indian Products*, s.v. "Iron"). This iron is often of very superior quality, and being reduced (mostly without flux) slowly and at a low temperature, the result is a decidedly malleable iron, often naturally of a steely character. From ancient times the art of forging must have been considerably advanced, since we have great iron *láths* or memorial pillars in several places[1] still intact. Indian iron blades can generally be tempered at the edge by plunging, while hot, into water. Steel is, however, locally produced: *e.g.*, in South India, by cutting up small pieces of carefully hammered bar iron, and exposing them (with a proportion of a certain kind of wood cut small) in crucibles to a sufficient temperature. There is a detail of the process in the *Journal R. Asiatic Soc.* (V, 390). Indian steel has been called by the strange word *wootz.*[2] There is some confusion about the subject; no doubt "Indian" steel was early famous, but was it really "Indian," as distinct from Persian or Khurásán steel? Arrian speaks of *sideros indikos* as brought to the Abyssinian ports. Sir G. Birdwood remarks: "Indian steel has been celebrated from the earliest antiquity, and the blades of Damascus, which maintained their preeminence even after the blades of Toledo became celebrated, were, in fact, of Indian steel. Ctesias mentions two wonderful Indian blades which were presented to him by the King of Persia and his brother." The author goes on to explain that the *Ondanique* of Marco Polo's travels is a corruption of the Persian "*hindwáni*," *i.e.* Indian steel; and so the Spanish *alfinde* (alhinde), which now refers to the metal foil of a glass mirror, but originally meant polished steel. On the other hand, Mr. Purdon Clarke has proved as a fact, that European blades were largely imported into India during the Middle Ages, but the all *flexible* blades are probably really European. I believe that both accounts are true. Indian iron is of remarkably superior quality, and Beypur iron was used some years ago in the Menai Bridge and other works. But Indian steel or tempered iron is rigid, and never produces flexible blades. A glance at Plates 84 to 87 shows that Genoese (*Andrea Ferrara*), Solingen (German), and Toledo blades are found.

As to the general form—swords are usually slightly curved (*talwár*), or sometimes straight (*khirch*). Very large two-handed swords are found, but were used in athletic contests. The "gauntlet-sword" is peculiar to India. In one case the guard is quaintly fashioned into a tiger's head (Plate 86). These long blades are often of flexible German steel (one is inscribed as made by Abraham Stamm of Solingen). The collection includes a broad-bladed Rajput sword which has the traces of an inscription:—

...PRO-NOBI. | | INTER-ARMA.
...NTRA-NOS. | | SELENT-LEGES.

Some of the swords have slightly waved edges. The distinctly "flamboyant" blades are Malay, not Indian (Plate 85).

DAGGERS are of a few typical forms, but with many varieties in detail. There is the straight "Afghán" knife type; the blade has a rather broad back, with one sharp edge tapering to a point; some are small and can be used as daggers or as knives for ordinary use; others approach the dimensions of the sword. Straight daggers, or those with a very slight curve, are called *peshkabz* (Plate 87, figs. 25 and 26). Small daggers (often with guard handles) and curved (sometimes divided) blades, are called *bichhua* (or *bichhwa*), which means "scorpion." (Plate 87, fig. 19).

[1] That at Delhi is 16½ inches in diameter, tapering to 12 inches; the length is 23 feet 8 inches. The hard forging of this must have been no inconsiderable task.

[2] The origin of the evident corruption is unknown. Some suggest the Kanarese *ukku* (steel) or *uchhá* (used in Kanarese) for "superior."

The remaining typical form is a stout triangular blade, the handle consisting of two side-bars and a cross piece, which is grasped for a forward thrust. This form is always called *katár*. The type form is well shown on Plate 85, figs. 27 and 36.

These daggers often display very beautiful and tasteful workmanship, and sometimes very horrible devices to secure a deadly wound, as *e.g.*, the *katár*, of which the blade is made by a side spring to fly open, with three or five blades and points (Plate 84, fig. 16; Plate 85, fig. 13). In Plate 84, fig. 18, is a double *katár*, where the scabbard itself is a sharp dagger. In the Lahore Museum, I recollect a dagger in which along each side of the blade a groove had been cut out, and a row of small loose pearls inserted; this must have required very delicate workmanship. Sometimes daggers are attached to shields. In one case a pair of small antelope-horns, tipped with steel, have been connected with a handle, so as to give a dagger thrust right and left (bottom of Plate 97). A similar form, copied in steel, may be observed in the left-hand corner of Plate 99. Notice the cruel two-pronged *bichhwas* on Plate 97.[1]

The scabbards of swords and daggers are usually of thin plates of soft wood, *sembal* (*Bombax Malabaricum*) or the *dhák* (*Butea frondosa*), and they are covered with leather or velvet; the covering is sewn not at the edge, but down the middle of one side, with ornamental stitches in gold and silver wire, &c. The hilt and point are often beautifully mounted into pierced gold and silver work, and ornamented with stones. The handles are made of metal, and sometimes of ivory, fish-bone, jade, &c., and more rarely of rock crystal or white clouded jade, decorated with inlay of gold and rubies. The blades are often beautifully "watered,"—strands of silver, gold, &c., being hammered in: damascene gold and incised ornaments are common. Hunting swords are often decorated with quaint figures of the chase, tigers, dogs, &c. (*shikárgáh*).

On Plate 101 (at the bottom) will be observed a horrible little implement, hardly to be called a dagger (of Mahratta origin); it is called "*wag-nakh*," or tiger's claw, being a series of sharp (and sometimes curved) blades attached to a bar, and held on the fingers by two rings, so that the weapon is hidden by the palm of the hand. With this weapon the founder of the Mahratta rule, Siváji, treacherously ripped up the Bijapur general, Afzal Khán, whom he had invited to a friendly interview, and whom he pretended to embrace on meeting.

A few words must be said about the Fire Arms, Bows, and Armour.

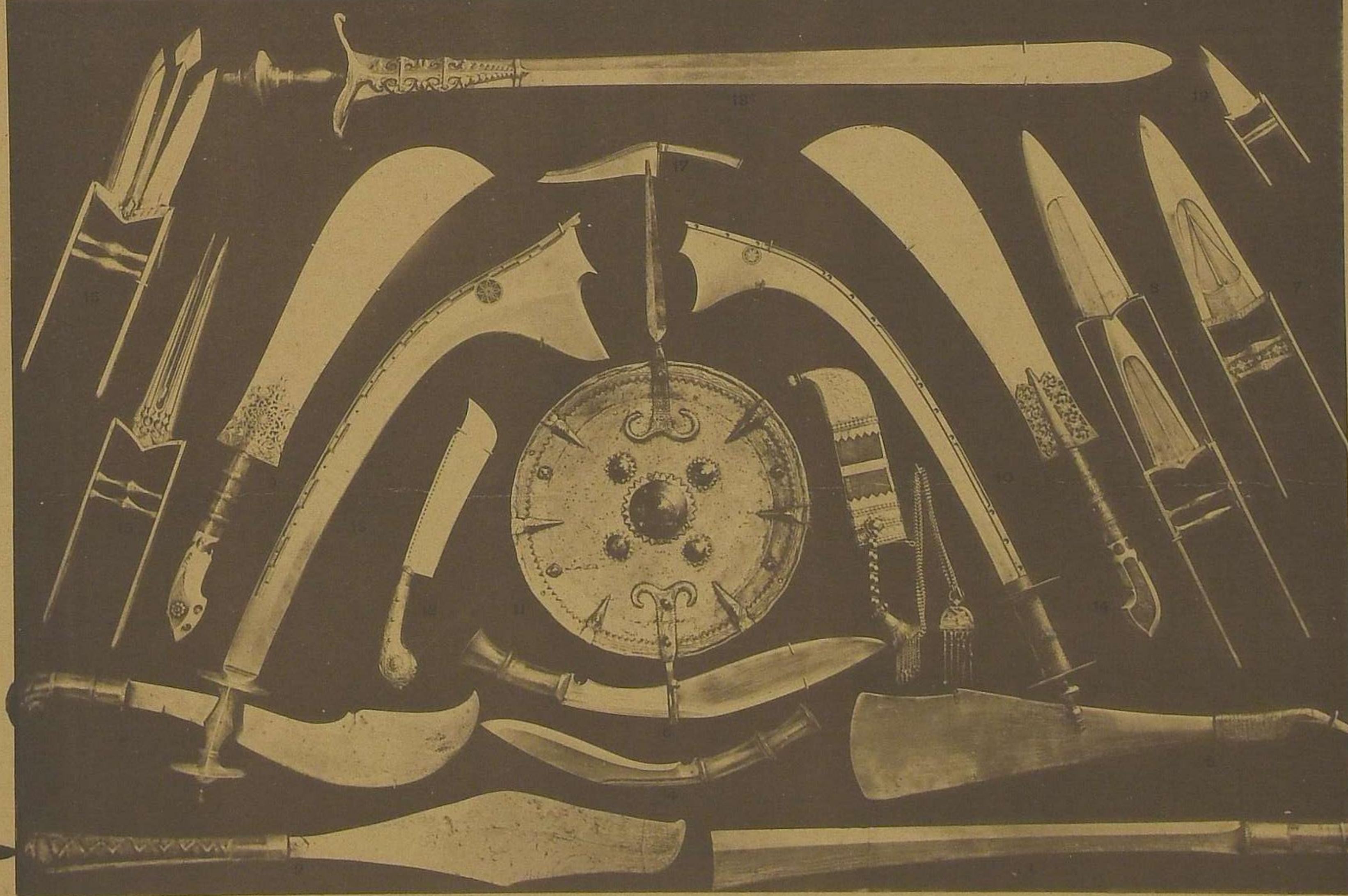
The more purely indigenous matchlocks are all very long-barrelled, and are fired with slow match and pan. Some have a curiously curved stock (these, I believe, are Bilúchi, or from the Western Frontier—see Plate 90). The barrels are often "watered," and sometimes beautifully damascened in gold. Sir G. Birdwood has figured in his *Industrial Arts* a specimen from the fine collection of H.R.H. the Prince of Wales, where the whole length of barrel is decorated with a singularly pleasing and suitable pattern of poppies and leaves, in gold.

I had the opportunity of seeing the curious production of the "watermark" in some barrels from Bajaur on the Frontier. Here a thin rod of soft iron (square in section) was first tightly twisted till it looked like a long screw. This was then coiled on to a mandrel, and another similar rod was coiled over that again, only in the reverse direction; the whole being heated, was slowly and carefully hammered together. The hammered surface showed a complicity of waves or wrinkles, the result of the various twist-edges of the rods. In another case I saw a barrel made out of a smooth, flat bar (about 1½ inches broad), which was slowly bent round into a close spiral tube—like a long wood-shaving—and this without the aid of any central shaft or mandrel. Over the tube thus formed, another coil (of thinner rod) was laid, and the whole being enclosed in a sort of ochre-clay matrix, was heated and hammered into a solid tube. These thick tubes are often lightened in weight and improved in appearance by being filed away into facets outside (*pahludár*). A rude, but not inefficient, process of "rifle-boring" is known (described in my "*Panjab Manufactures*," 1878). The collection here illustrated does not include the *arquebuss* form—a short-barrelled weapon with trumpet mouth, which scatters the charge of slugs, &c. This is appropriately called *sher-bacha*, or "tiger's cub."

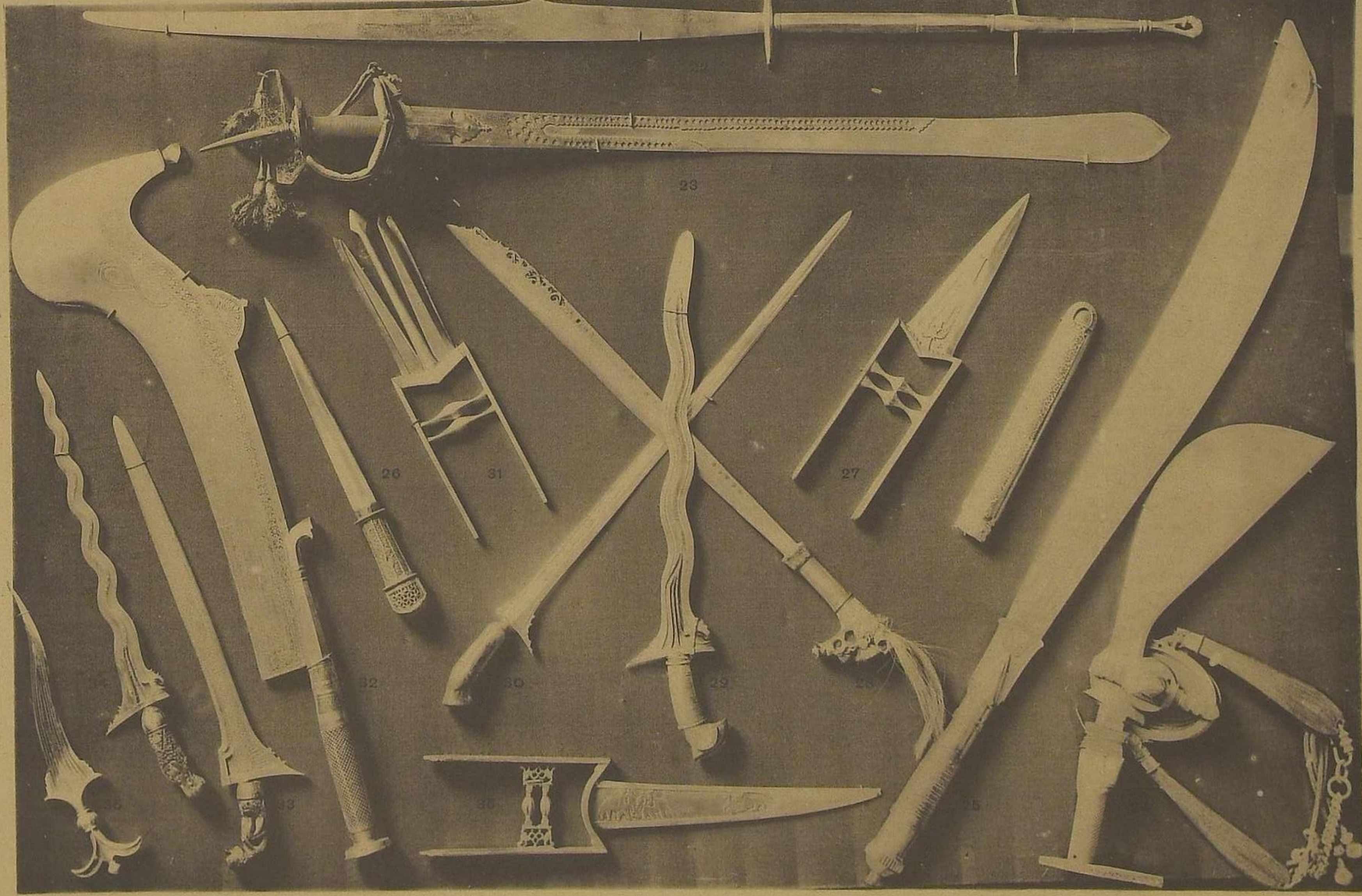
Bows and Arrows play a great part in ancient literature, and there is even a *Dhanus Veda*—a sort of supplementary "Veda" on the subject of the bow and its use (*Dhanus*, Sansk: = bow).

I have seen bows in one piece, and of a simple arc form like our own; but the commoner form is that of the "Cupid's bow" (Plates 96 and 100). This is made by the "*Kumángar*" in several pieces. A centre piece (sometimes of horn or other hard material) is taken, and into each end a shaped piece of mulberry wood, carefully and neatly tipped with horn, is inserted; the parts are strongly joined together with bindings of thin strips of raw hide or catgut, and the whole is painted and covered with little flower-patterns, and finally varnished. The string is of thick twisted crimson silk, ending in catgut loops. These bows are still presented on ceremonial occasions by the Chiefs of the Simla Hill States. The arrows are made by a special craftsman (*tírgar*). The shaft is a

1 In Plate 94 will be noticed another instance of a natural object made into a weapon—the head bone of the saw-fish mounted as a sword. This, of course, is rather fanciful than for use.

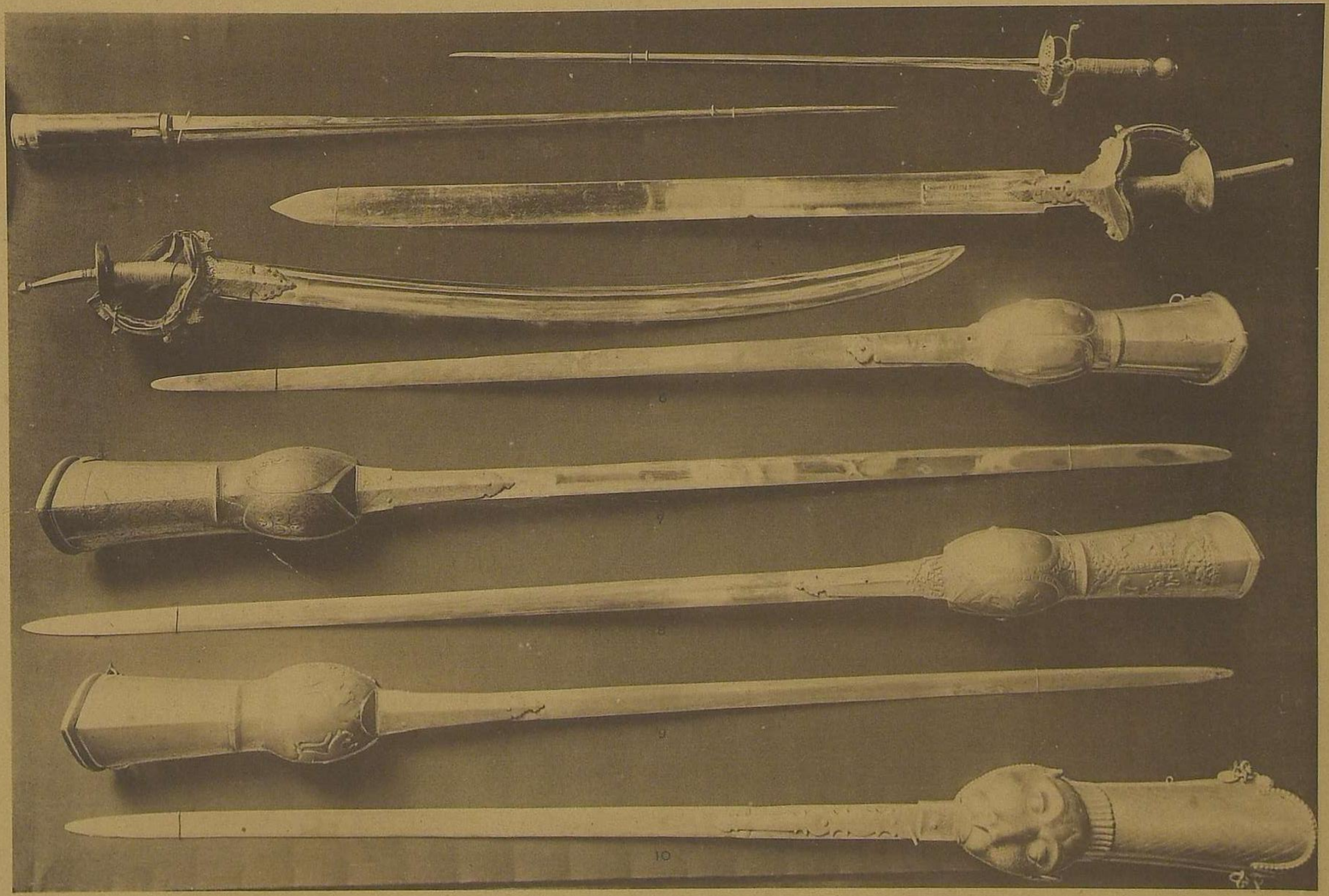


84.—1. SWORD, brass mount, plain square end. *Assam.* 2. SWORD, with broadened diamond-shaped blade. *Cachér, Assam.* 3. Another Cachér sword. 4. "KUKRI." Curved brass blade, with steel edge. *Naipál.* 5. Broad-bladed SWORD. *Burmese.* 6. Decorated steel "KUKRI." *Naipál.* 7. "KATAR." Blade chiselled and damascened. *Lahore.* 8. DAGGERS, "Katár." The upper one hollowed and forming a sheath for the lower. 9. SWORD. Broad blade, with open-work brass mount and ivory handle. 10. SWORD. Curved blade widening towards the end, grooved. *Naipál.* 11. SHIELD. Circular, hammered steel. *Santhál.* 12. DAGGER AND SHEATH. Broad blade, the handle and sheath of chased silver. *Kúrg.* 13. SWORD. Curved blade widening towards the end, back grooved. *Naipál.* 14. SWORD. Broad blade, with open-work brass mount and ivory handle. *Malabar.* 15. DAGGER. "KATAR." Deeply-forked grooved blade, handle damascened. *Jhálawár (Rajputana States).* 16. DAGGER. "KATAR." Blade dividing into five portions with a spring. 17. KNIFE. White bronze. *Travancore.* 18. SWORD. Long double-edged Roman-shaped blade, handle and mount gilt. *Ancient Naipálese.* 19. DAGGER. "KATAR." Handle damascened.

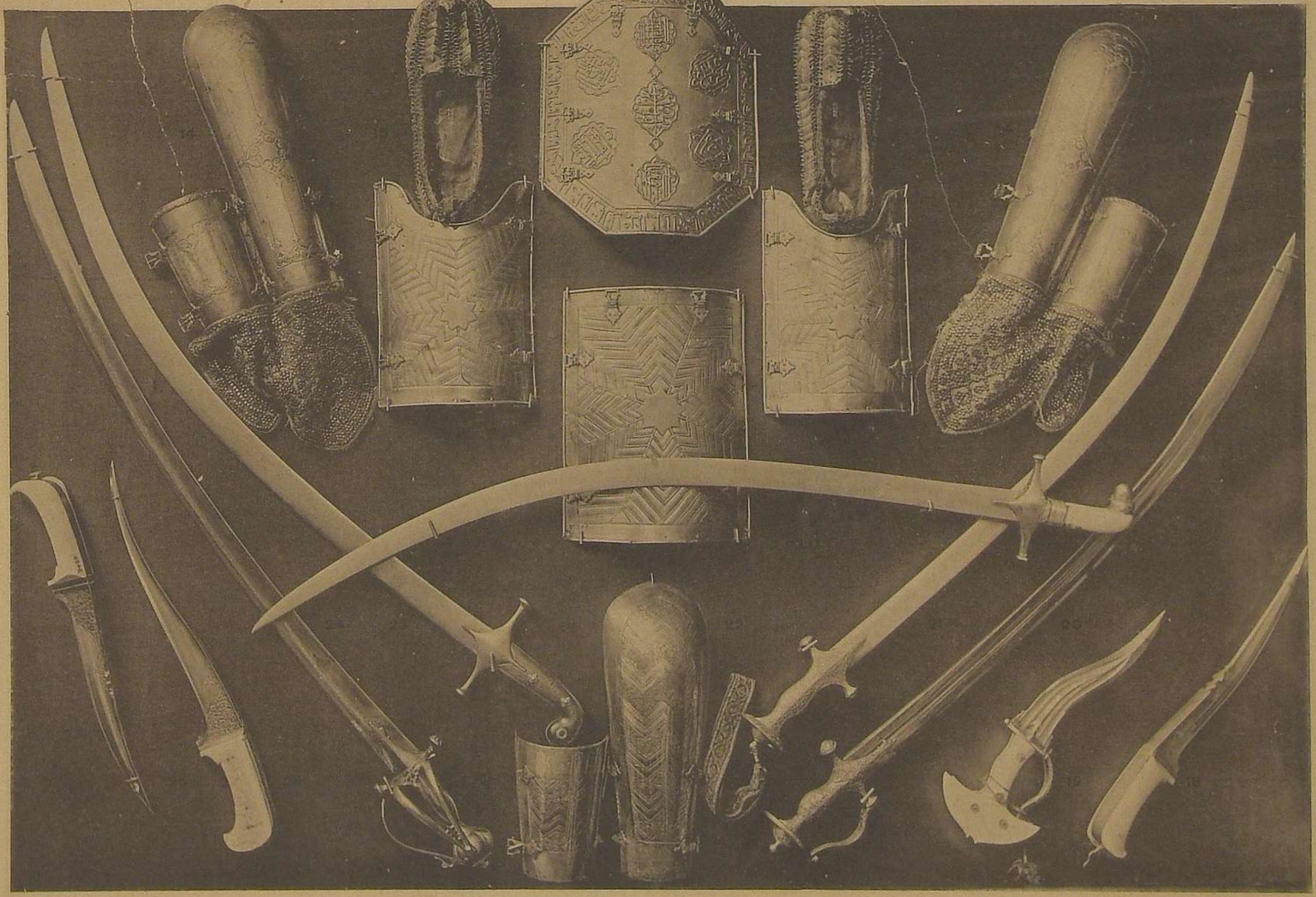


85.—22. SWORD, two-handled, of soft steel, with brass mounts. *Khasia Hills, Assam.* 23. SWORD. Damascus blade, with open-work damascened side-plates and basket-hilt. The National sword of Orissa. *Gwalior.** 24. SWORD. Broad curved blade, with belt, silver chains, and brass guard. *Kúrg.* 25. AXE, Sacrificial. Steel, inlaid with brass. *Naipál.* 26. DAGGER AND SHEATH. The sheath ornamented with silver open-work; brass hilt. *Darjeeling.* 27. DAGGER, "KATAR." Grooved steel blade. *Panjáb.* 28. SWORD. Blade ornamented with open-work; the handle of carved bone. *Assam.* 29. DAGGER, "KRIS." Undulating grooved blade. *Singapore.* 30. DAGGER, "KRIS." Straight narrow blade. *Malay.* 31. DAGGER, "KATAR." Blade dividing into five parts. *Patiála.* 32. AXE, Sacrificial. Broad curved blade. *Naipál.* 33. DAGGER, "KRIS." Straight watered blade. *Malay.* 34. DAGGER, "KRIS." Undulating blade. *Malay.* 35. DAGGER. Doubly curved blade, hilt silvered. *Vizianágram.* 36. DAGGER, "KATAR." Blade chiselled in low relief. *Lucknow.*

* This may be supposed to be a Rajput sword captured from Orissa, and taken to the fortress of Gwalior after one of the Mahratta raids.



86.—2. RAPIER. Steel open-work hilt. Inscribed "FRANCISCO RUIS EN TOLEDO." *From Jeypore.* 3. SWORD-STICK. English rapier blade. *Delhi.* 4. SWORD. Broad blade, with inscriptions in Latin and German; hilt damascened. 5. SABRE, with broad fluted blade; hilt damascened. 6. GAUNTLET-SWORD, with flexible blade inscribed "ABRAHAM STAMM IN SOLINGEN." *From Indore.* 7. GAUNTLET-SWORD. European blade; gauntlet damascened. *Hyderâbâd.* 8. GAUNTLET-SWORD. European blade, with inscription; the gauntlet embossed and gilt. *Oudh.* 9. GAUNTLET-SWORD. European blade; the gauntlet chiselled with lions rampant. *Taken at Lucknow.* 10. GAUNTLET-SWORD, with European blade; gauntlets of brass, with the base in form of a tiger's head. *Oudh.*



87.—14. GAUNTLETS, a pair. Chiselled steel, damascened. *Captured at Seringapatam.* 15. SHOES, pair of. Chain-mail, brass and steel. *Bhúj, Kutch.* 16. ARMOUR. One plate; steel, chiselled, with inscriptions. *Old Indian.* 17. ARMOUR. Three plates, chiselled steel. *Mahratta.* 18. DAGGER. Chiselled blade, damascened and enamelled. *Lahore.* 19. DAGGER. Blade curved and fluted; ivory hilt. *Vizianagram.* 20. SABRE, "Talwár." Damascus blade, fluted, hilt chiselled and gilt. *Lahore.* 21. SABRE, "Talwár." Khurásán watered blade, hilt thickly plated with gold. *Hyderábád, Sindh.* 22. ARM-GUARD. Chiselled steel. *Mahratta.* 23. SABRE. Watered blade. Presented by John Sobieski, King of Poland, to the Earl of Rochester, A.D. 1676. 24. SABRE, "Talwár. Damascus blade, damascened and jewelled hilt. 25. DAGGER. Blade curved and chiselled. 26. DAGGER. Blade curved, chiselled and gilt. 27. SABRE, "Talwár." Ivory hilt.

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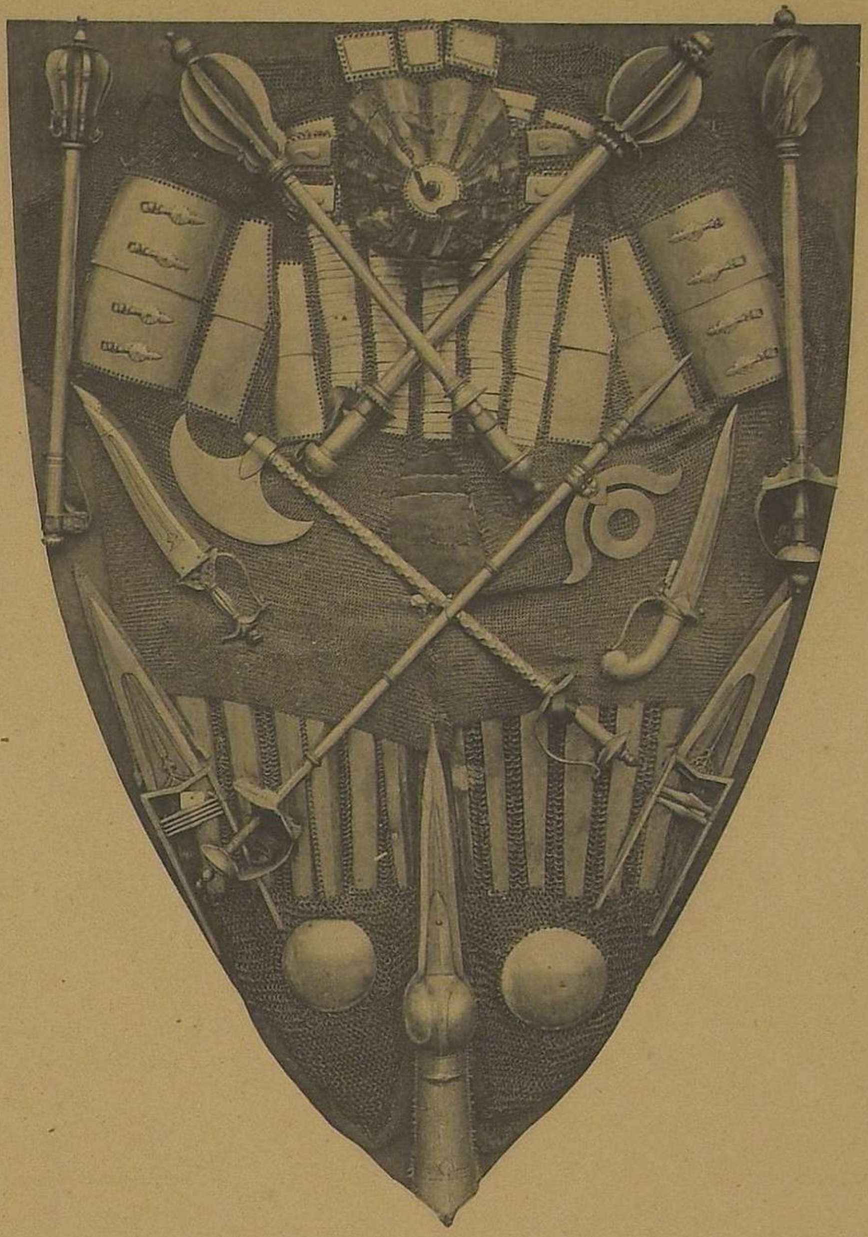
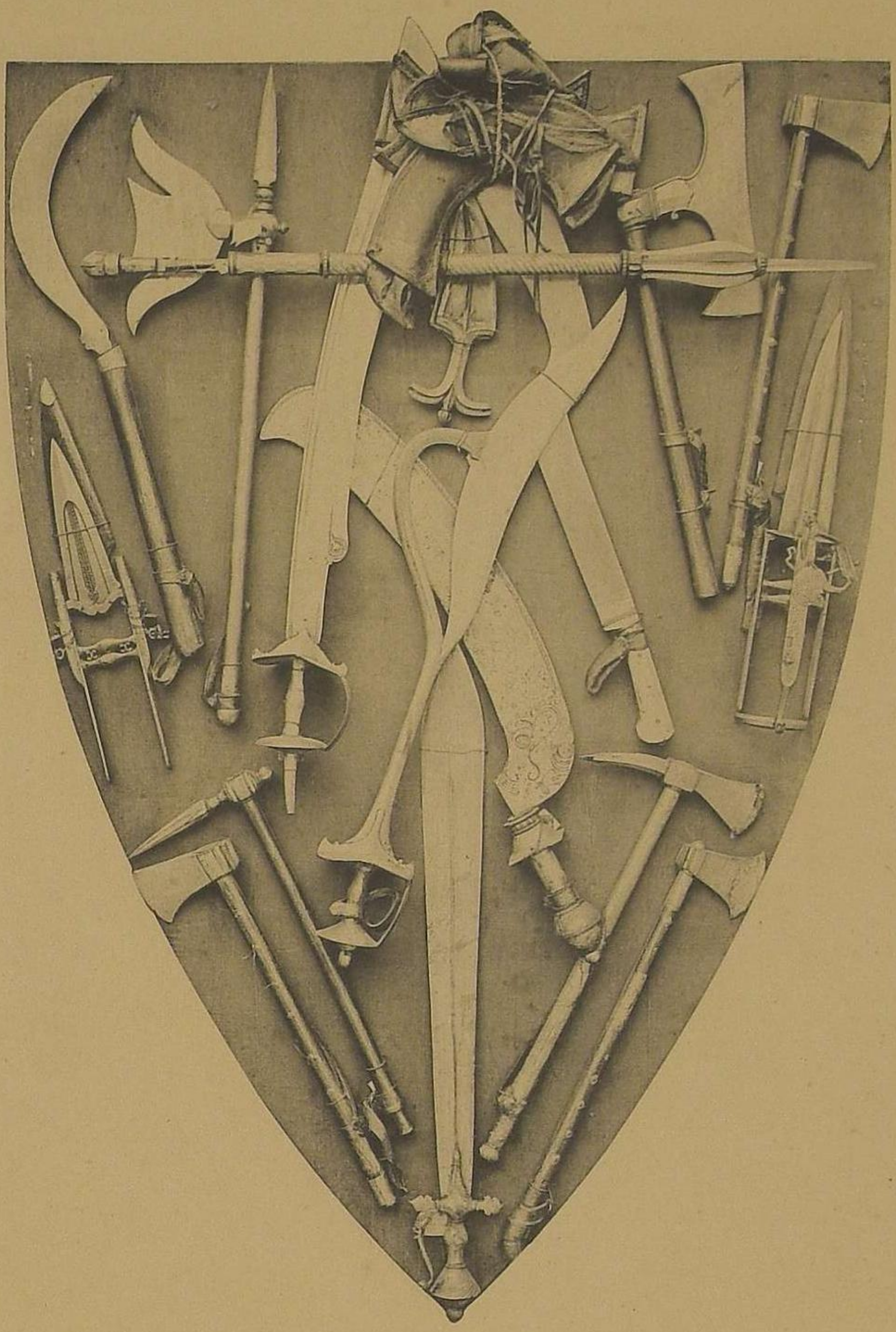
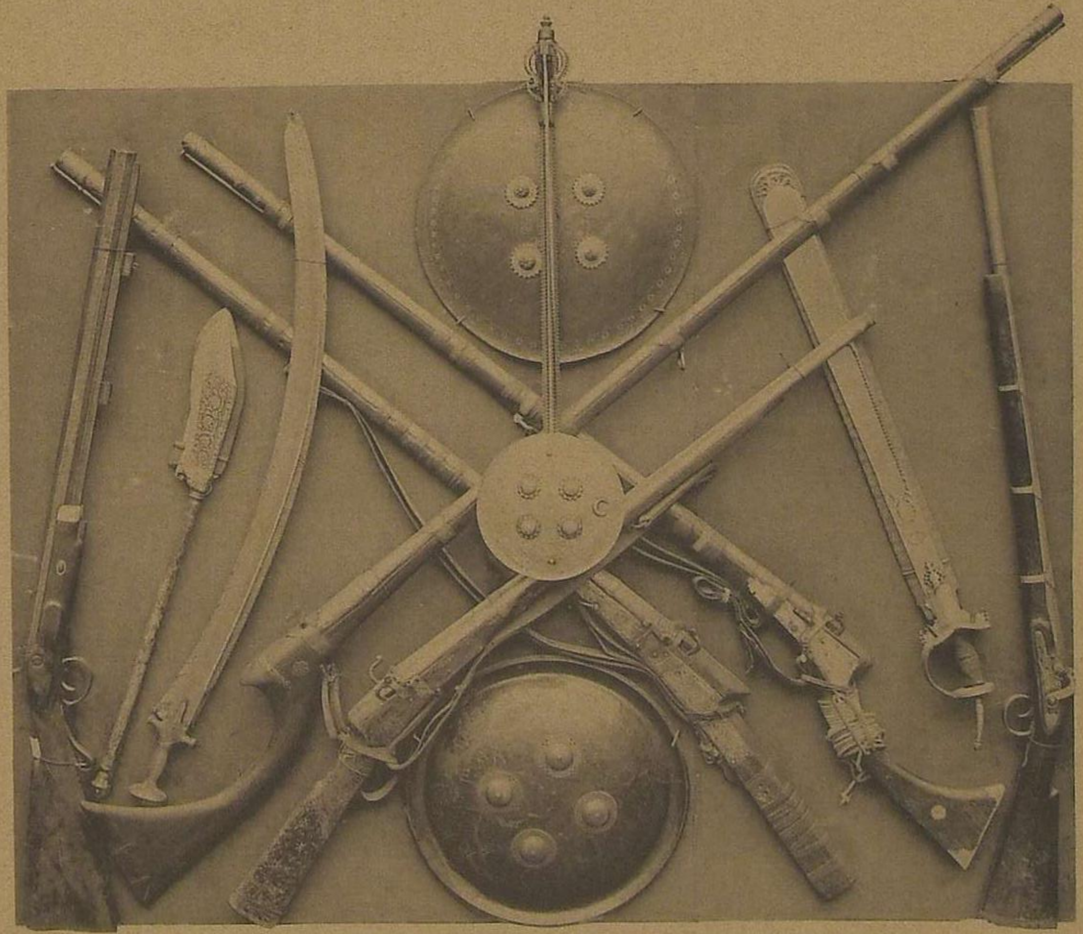


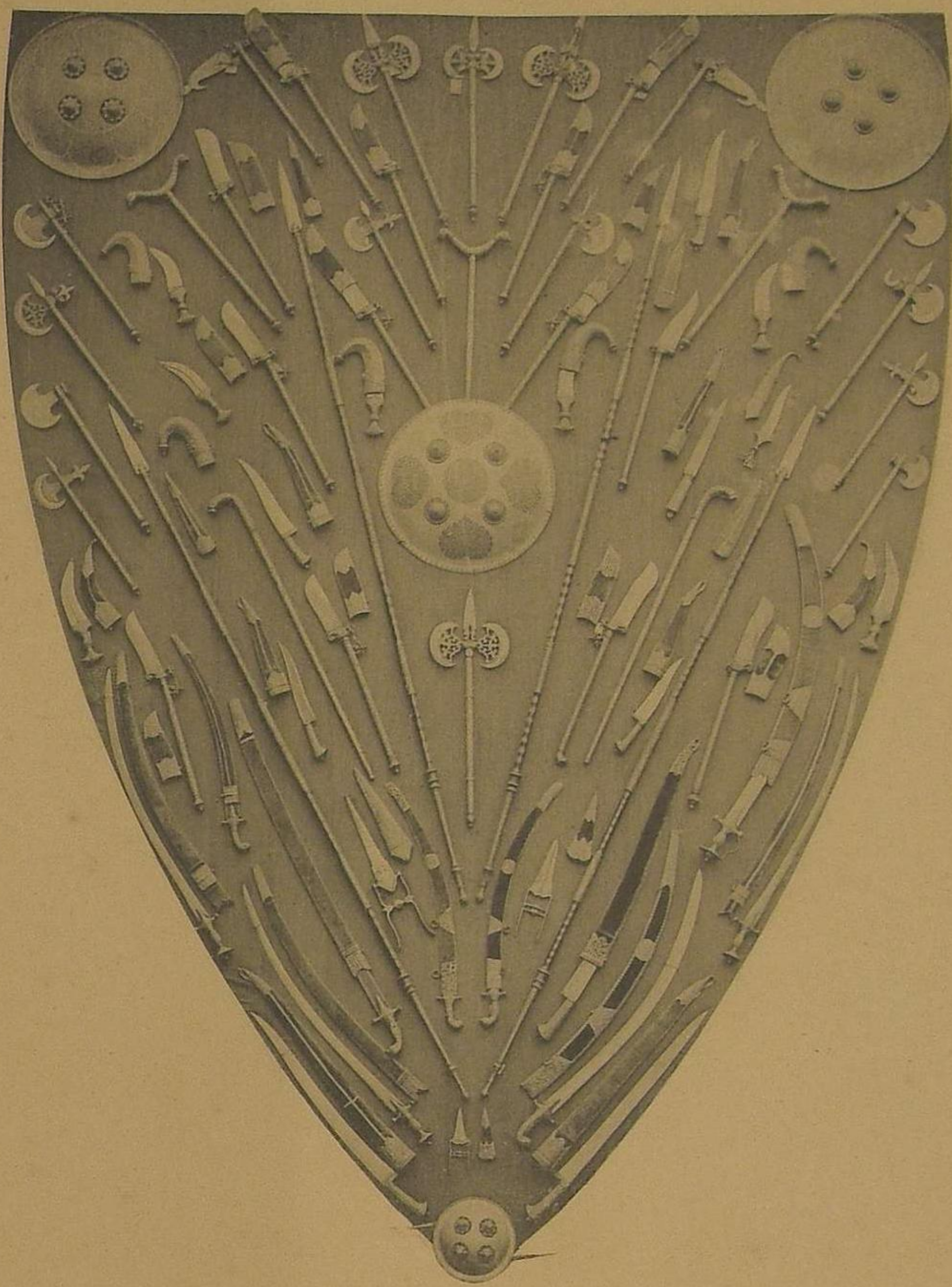
88.—Arms and Trophies
Shown in the Indian and Colonial Exhibition, 1886.



89.—Arms and Trophies
Shown in the Indian and Colonial Exhibition, 1886.



90.—Arms and Trophies
Shown in the Indian and Colonial Exhibition, 1886.



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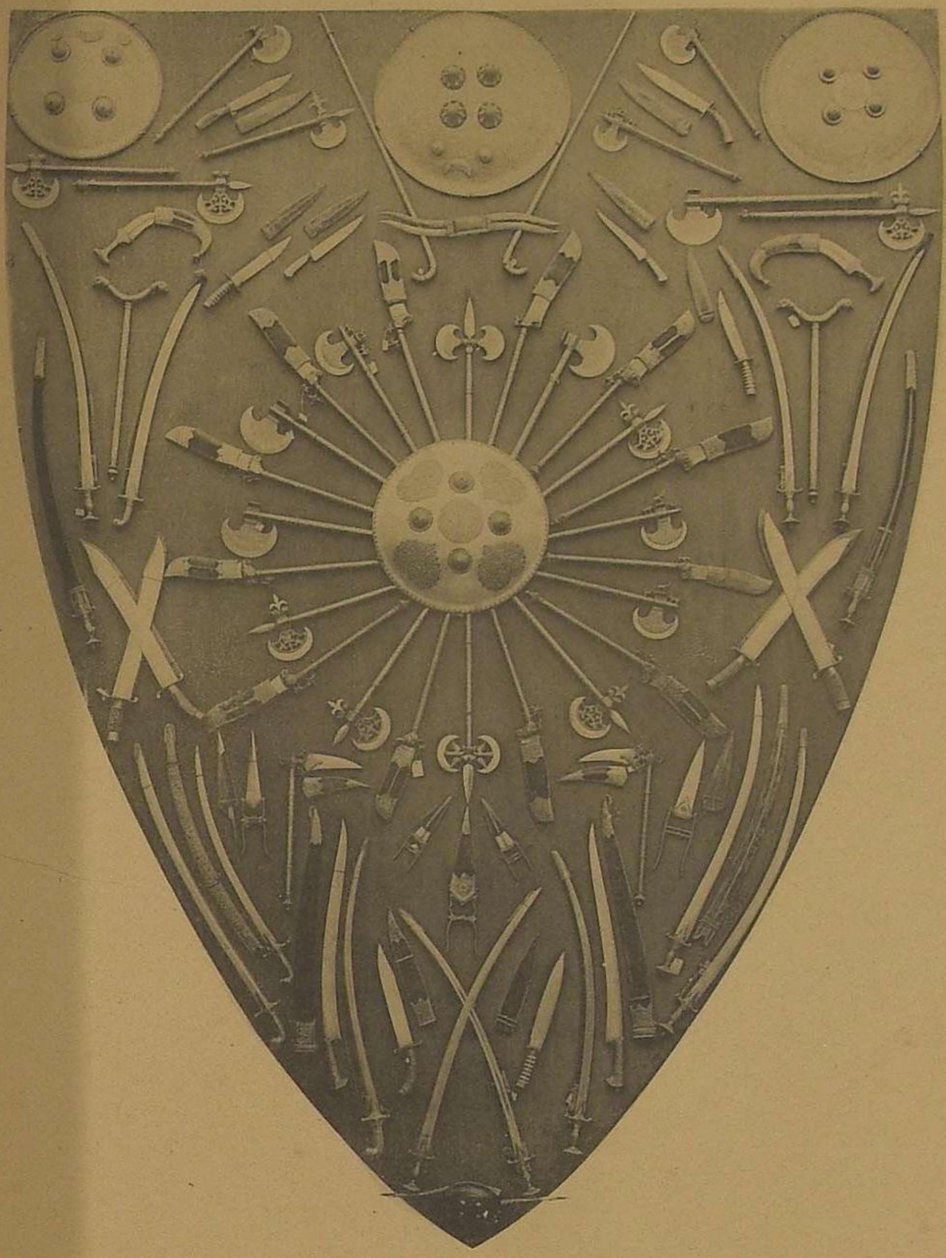

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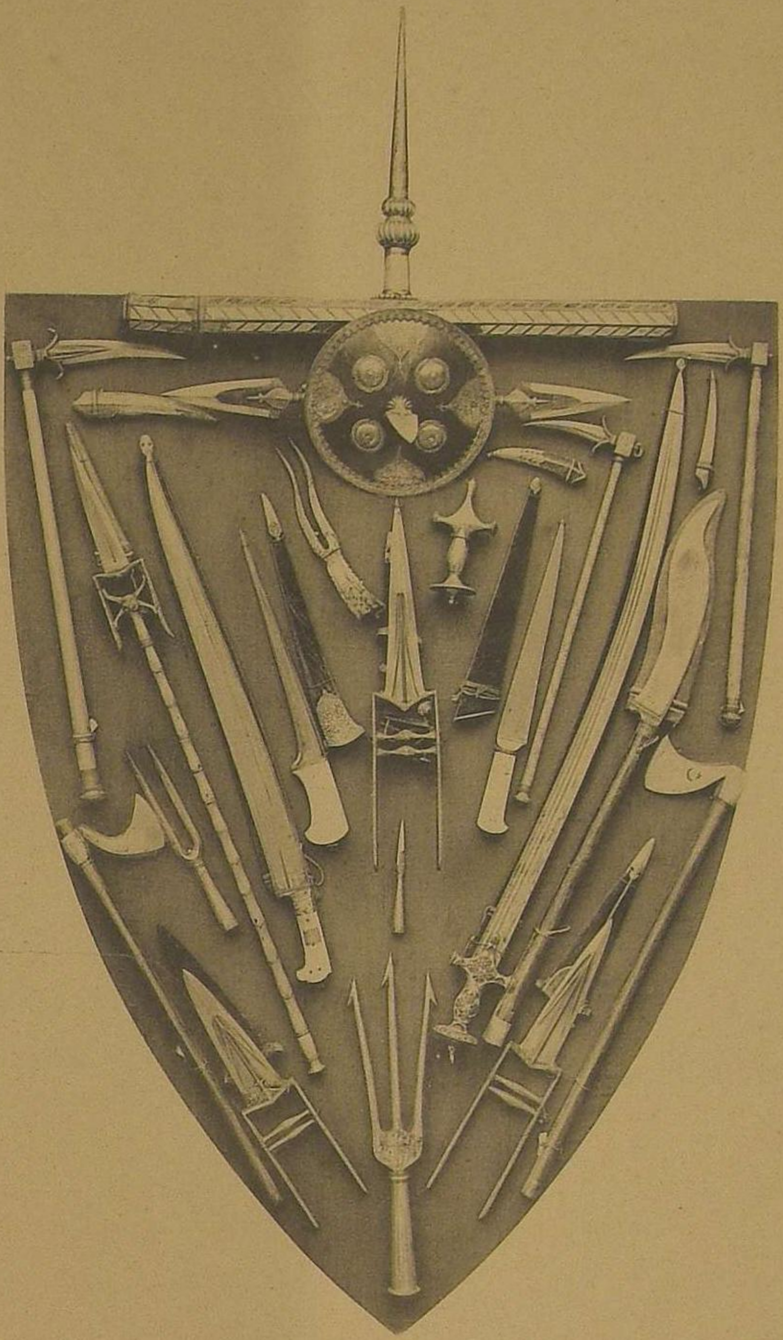

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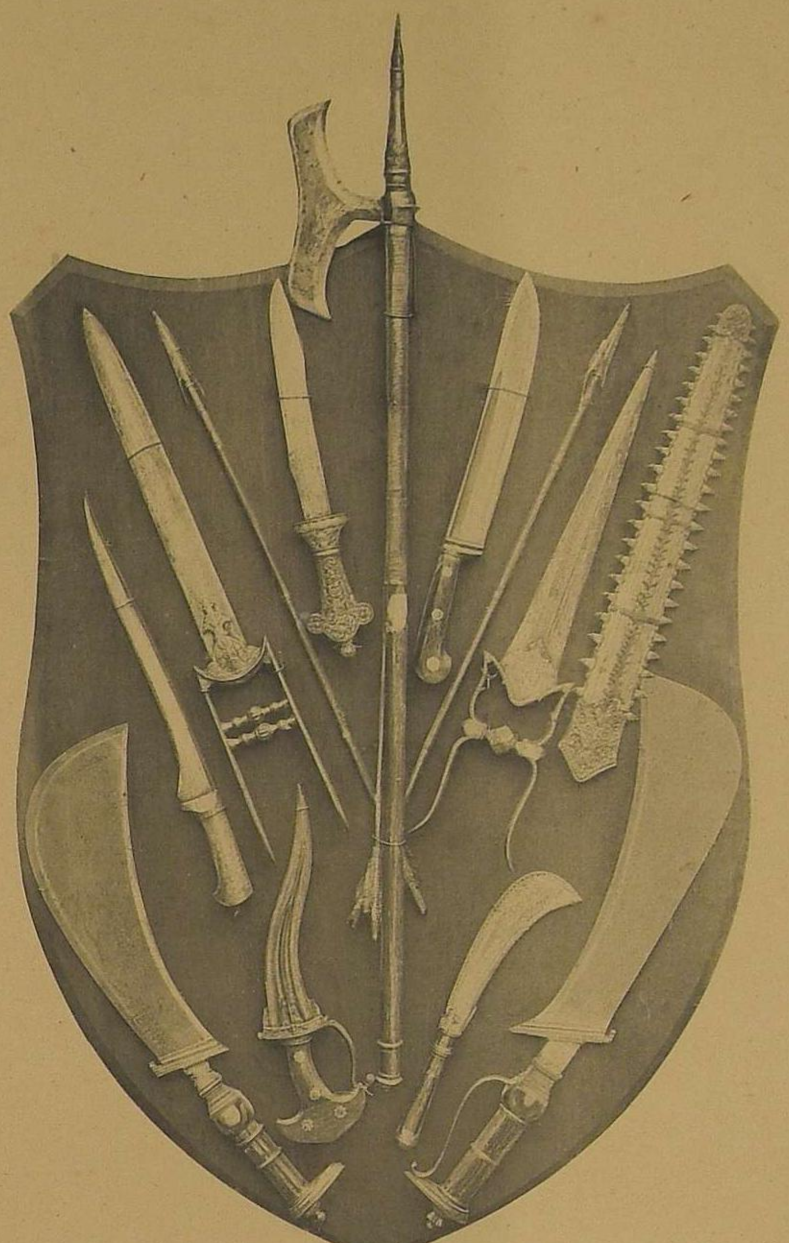

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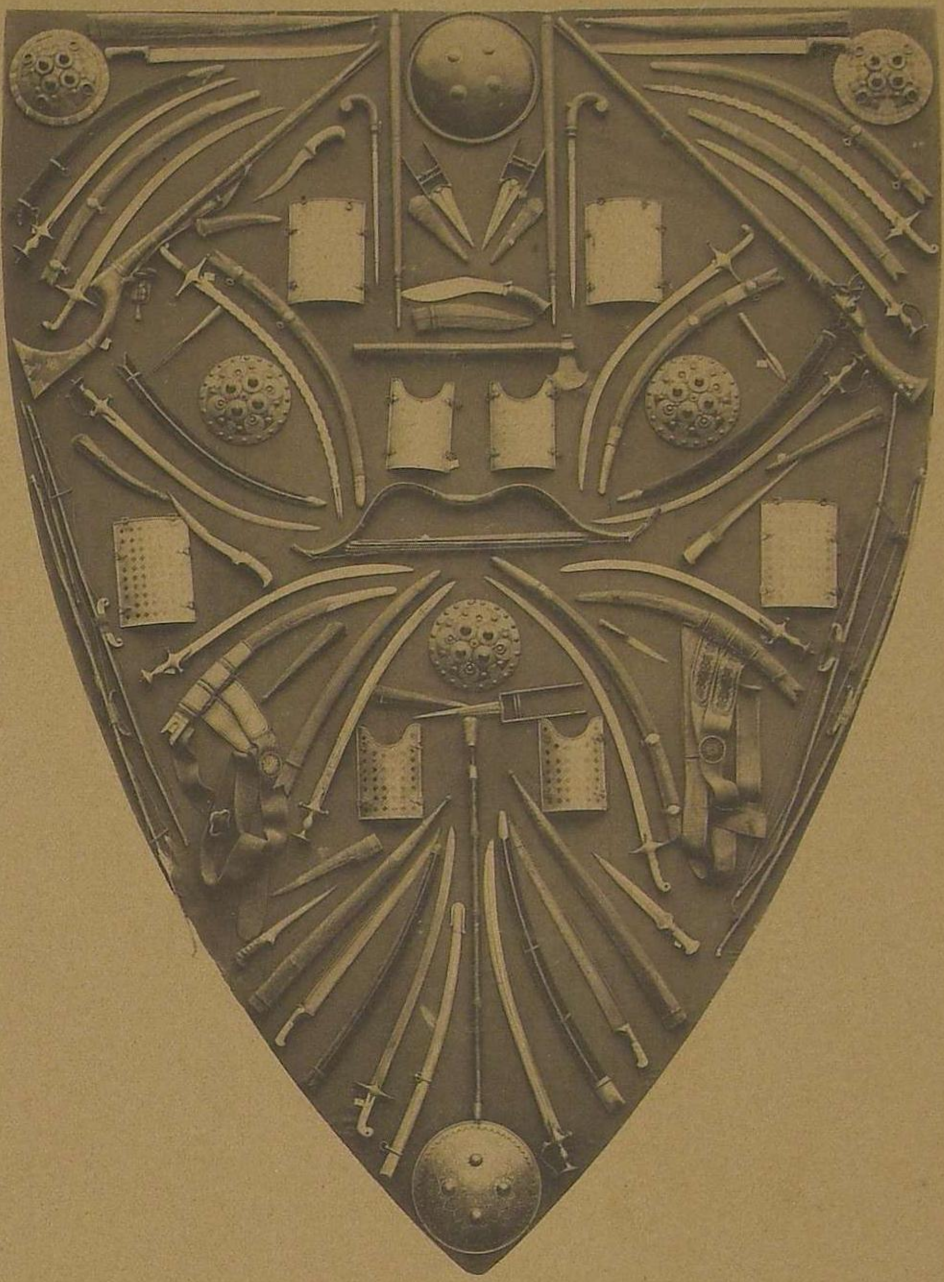

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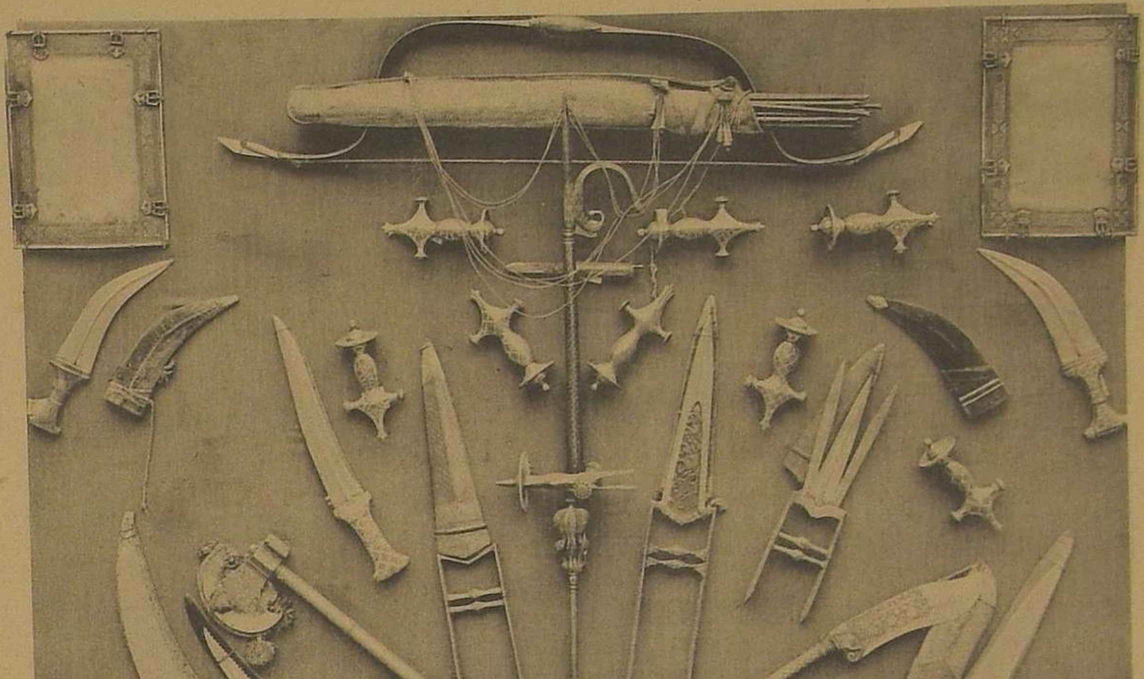

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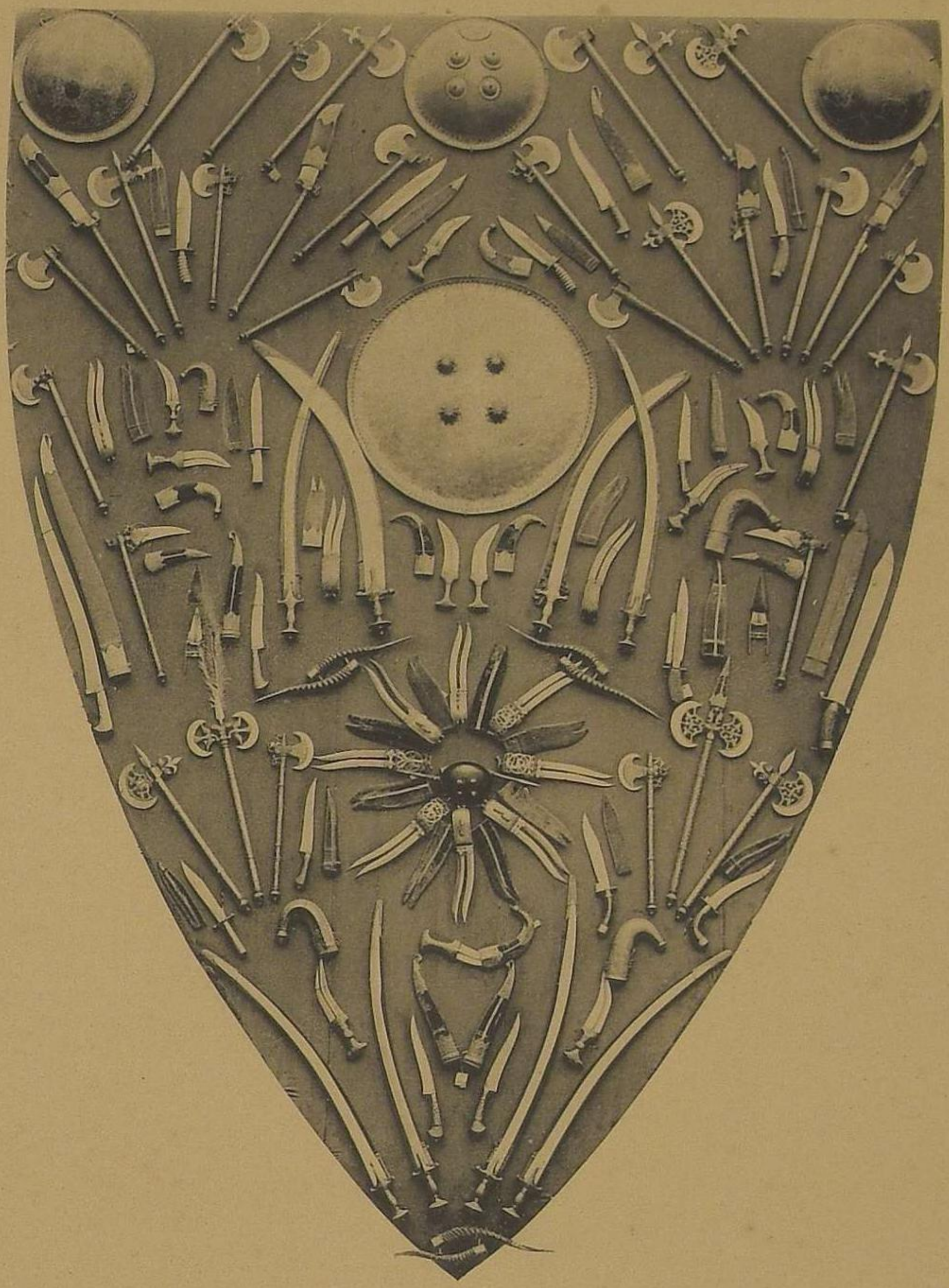

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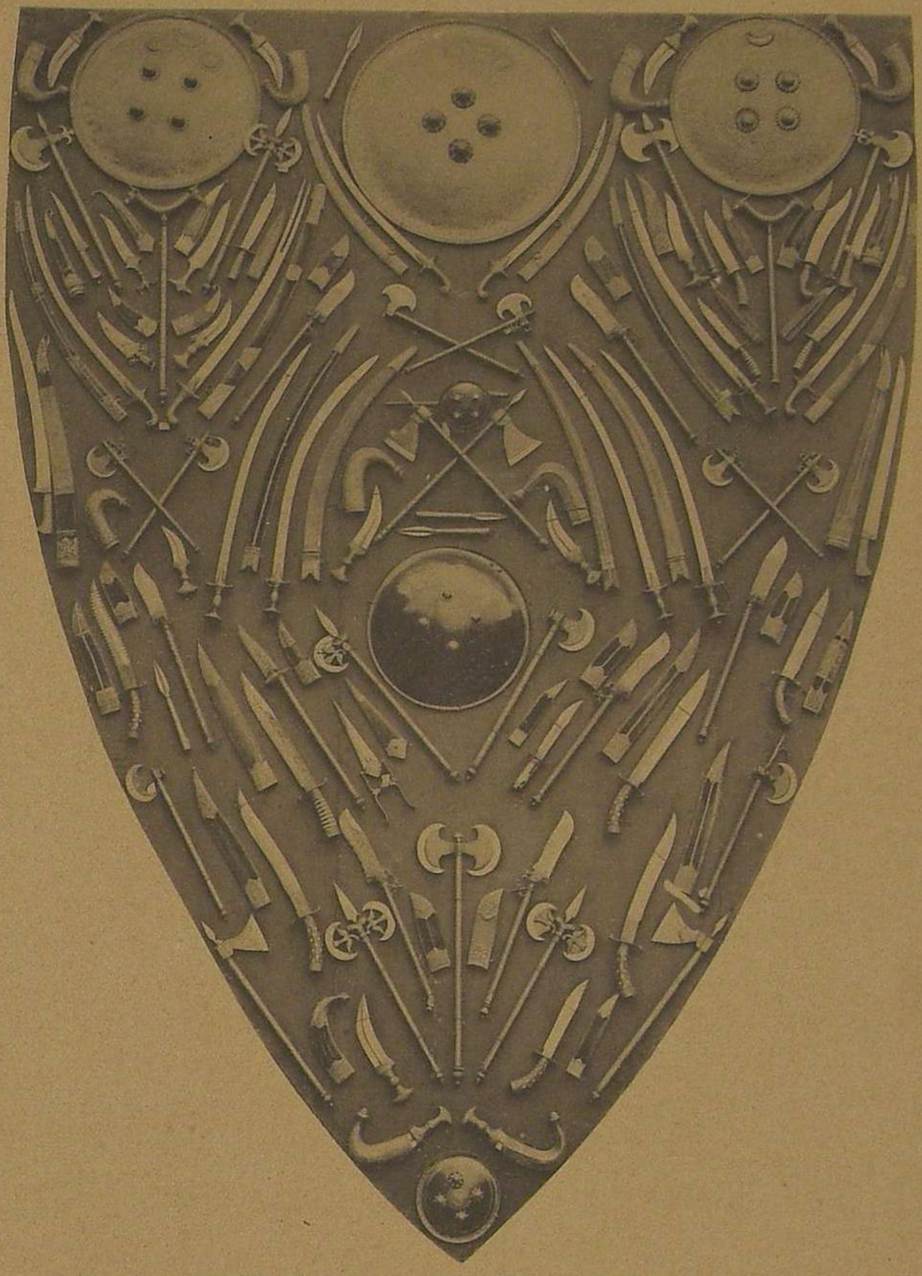

98.—ARMS AND TROPHIES
Shown in the Indian and Colonial Exhibition, 1886.

99.—Arms and Trophies
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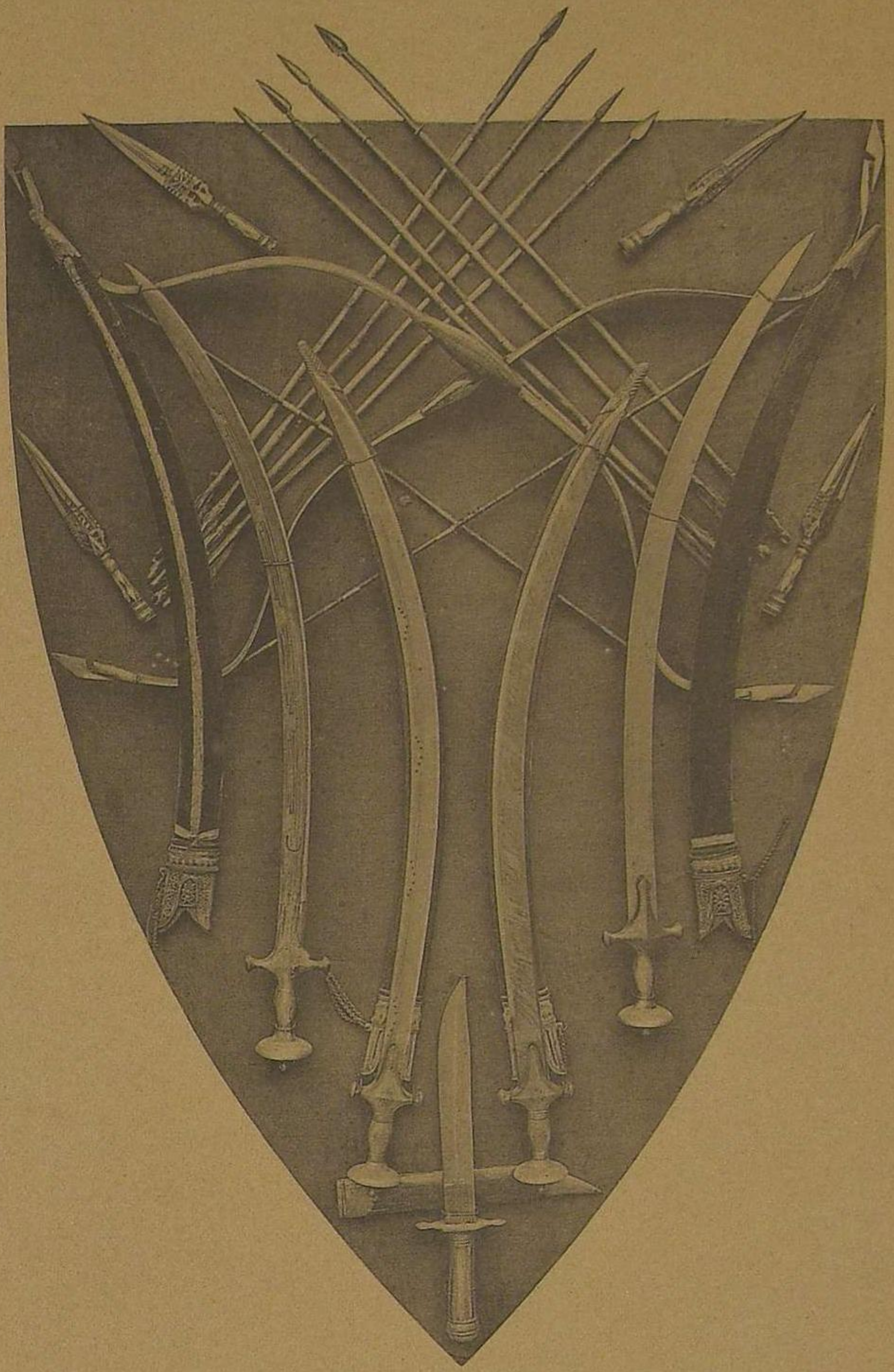

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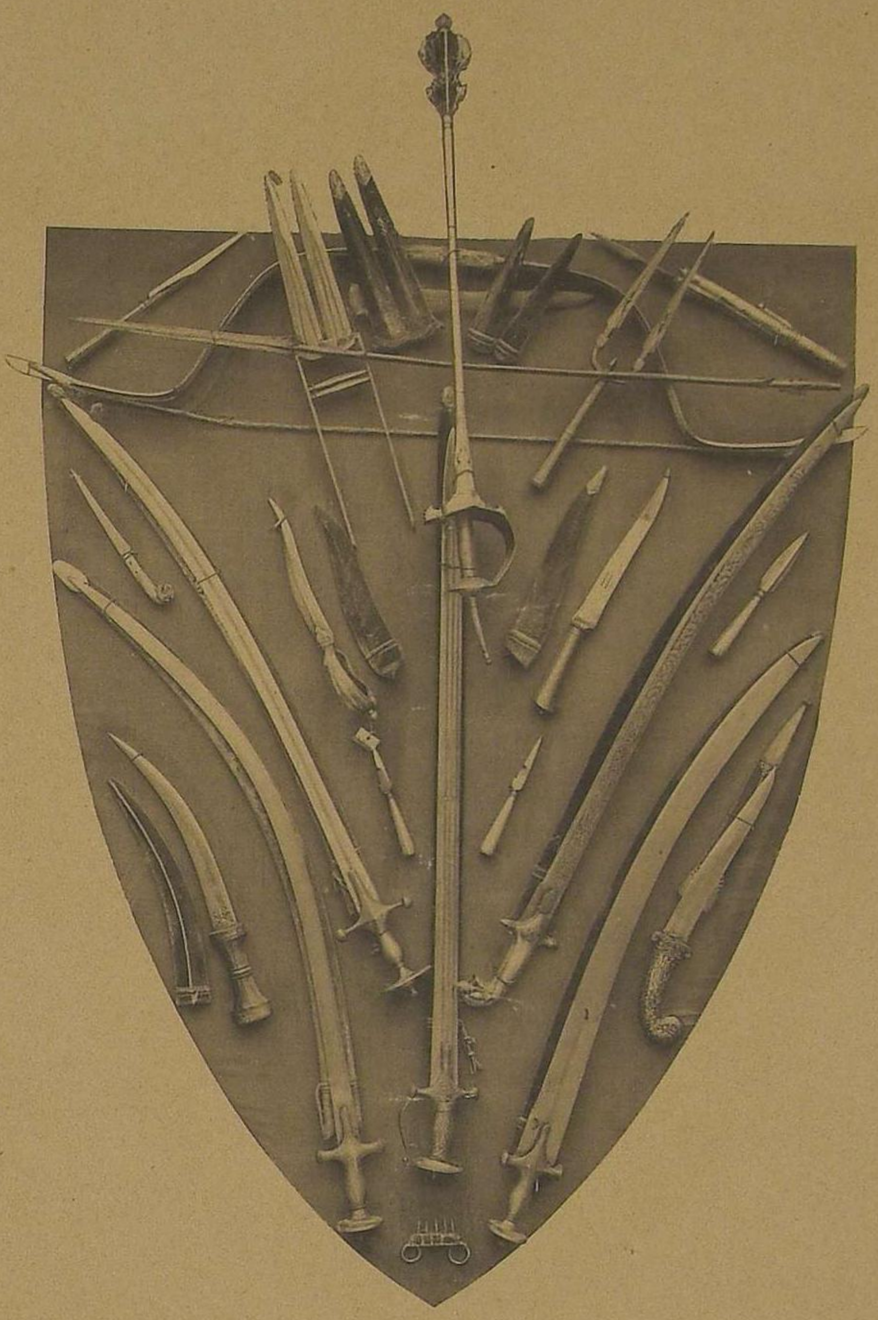

101.—Arms and Trophies
Shown in the Indian and Colonial Exhibition, 1886.

102.—Arms and Trophies
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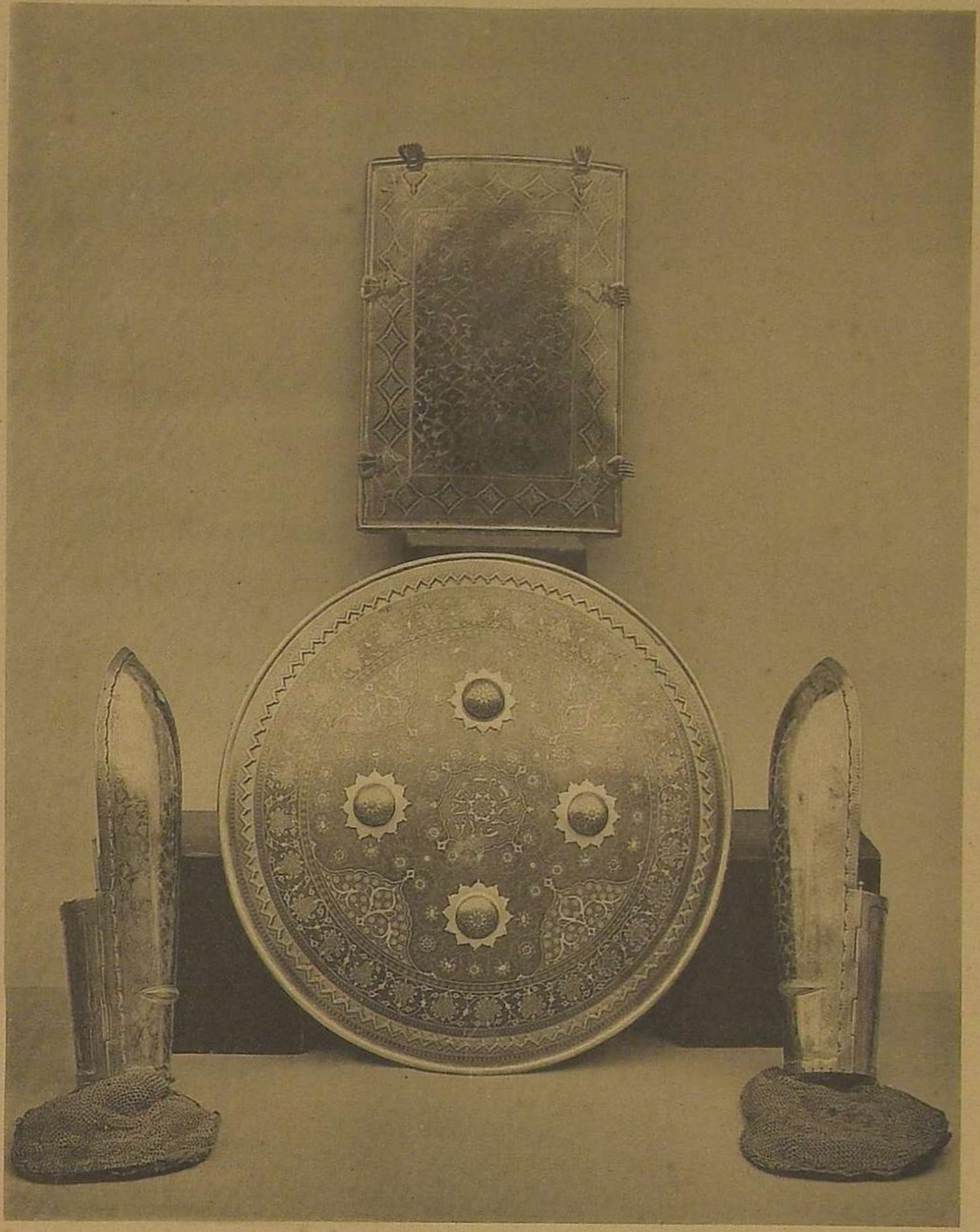

103.—Shield, and one of the (four) plates of a *Chāraina*, and gauntlets.

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3—Dado and panel, Vestibule.
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